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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,933	01/09/2004	Norman Paul Jouppi	200312802-1	9240

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EXAMINER

PAUL, DISLER

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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06/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/754,933	Applicant(s) JOU PPI ET AL.	
	Examiner Disler Paul	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9;14-16;20-24;25-28 is/are rejected.
- 7) ☐ Claim(s) 10-13;17-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/9/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9; 14-16; 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jouppi ("2002/0141595 A1") and Amir et al. ("2002/0090094 A1").

Re claim 1, Jouppi disclose of a system for audio reproduction comprising: means for obtaining one or more audio signals that are representative of sounds occurring at a first location ("fig.1/60; page 2[0026] line 1-6; page 2[0028] line 1-5"); means for communicating the audio signals from the first location to a second location of a person ("fig.1/74; page 2[0023]") and plural means for reproducing audio field at the second location from the audio signals ("page 2[0030] & page 3[0036]"). While Jouppi disclose of the above, He fail to further disclose of the means for determining a position of the head of the person in at least two dimensions at the second location by imaging the person.

However, Amir et al. disclose of a system wherein the means for determining a position of the head of the person in at least two

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dimensions at the second location by imaging the person ("fig.1; fig.1 (18); fig.2") for the purpose of adjusting the gain of the transducer based on the head movement. Thus, taking the combined teaching of Jouppi and Amir et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Jouppi by incorporating the means for determining a position of the head of the person in at least two dimensions at the second location by imaging the person for the purpose of adjusting the gain of the transducer based on the head movement.

The combined teaching of Jouppi and Amir et al. as a whole, further teach of the sounds emitted by each means for reproducing are controlled based on the position of the head of the person ("fig.1 ((14,18,24,26); fig.4; page 3[0027] line 16-20").

Re claim 2, the system according to claim 1, wherein the audio field is reproduced in real time ("Amir, page 3[0029]").

Re claim 3, the system according to claim 1, wherein said means for determining repeatedly determines the position of the person and wherein said means for reproducing is continuously controlled in response to changes in the position of the head of the person ("abstract, page 1[0007] line 15-18/precise adjustment based on speaker movement denote continuity and repetitiveness").

Re claim 4, the system according to claim 1, wherein the position of the head of the person is determined in horizontal directions and wherein volume for reproduction by each means for reproducing is controlled based on the horizontal distance between the head of the person and the means for reproducing ("Amir, fig.1(18,28)").

Re claim 5, the system according to claim 4, wherein each of the plural means for reproducing comprises a speaker ("Jouppi, page 2[0030]").

Re claim 6, the system according to claim 4, further teach of the wherein each of the plural means for reproducing comprises at least a pair of vertically arranged speakers ("Jouppi, page 2[0030]").

Re claim 7, the system according to claim 1, wherein the position of the person is determined in three dimensions, including horizontal and vertical directions ("page 3[0029] line 8-15; fig.2-4/video detectors for multidimensional positions").

Re claim 8 has been analyzed and rejected with respect to claim 6.

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Re claim 9, the combined teaching of Jouppi and Amir et al. as a whole would have incorporate, further teach of the system according to claim 8, wherein the volume of reproduction by each of a pair of vertically arranged speakers is based on the position of the head of the person in the vertical direction ("Amir, fig.1-4(46,54)/video to incorporate multi-dimensional head movement").

Re claim 14, the system according to claim 1, wherein the particular one of the audio signals is multiplied by a factor related to the position to determine a desired signal level for the particular one of the audio signals and when the desired signal level is substantially different from a current signal level gradually adjusting the current signal level toward the desired signal level ("page 5[0067 & 0074]/(730)").

Re claim 15, The system according to claim 14, wherein the sounds are digitally sampled at a sampling rate and the current signal level is incrementally adjusted in uniform increments, one adjustment for each of a predetermined number of samples ("page 6[0088]").

Re claim 16, the system according to claim 15, wherein the increment is related to a difference between the desired signal level and the current signal level ("page 5[0073-5]").

Re claim 20, the system according to claim 1, further comprising means for displaying visual images to the user including a source of the sounds("page 2[0022] line 3-7/screens").

Re claim 21, Jouppi disclose a method for audio reproduction comprising: obtaining one or more audio signals that are representative of sounds occurring at a first location ("fig.1/60; page 2[0026] line 1-6; page 2[0028] line 1-5"); communicating the audio signals from the first location to a second location of a person("fig.1/74; page 2[0023]") and plural means for reproducing audio field at the second location from the audio signals ("page 2[0030] & page 3[0036]"). However, Jouppi fail to disclose of the determining a position of the head of the person in at least two dimensions at the second location by imaging the person.

However, Amir et al. disclose of a system wherein the determining a position of the head of the person in at least two dimensions at the second location by imaging the person ("fig.1; fig.1 (18); fig.2") for the purpose of adjusting the gain of the transducer based on the head movement. Thus, taking the combined teaching of Jouppi and Amir et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Jouppi by incorporating the determining a position of the head of the person in at least two dimensions at the

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second location by imaging the person for the purpose of adjusting the gain of the transducer based on the head movement.

The combined teaching of Jouppi and Amir et al. as a whole, further teach of the wherein sounds emitted by each of plural means for reproducing are controlled based on the position of the head of the person ("fig.1 (24,26; page 2[0024] line 8-14; fig.4; page 3[0027] line 16-20").

Re claim 22, the method according to claim 21, wherein volume of reproduction is controlled based on the position of the head of the person ("fig.1 (18)").

Re claim 23, the method according to the claim 21, However, the combined teaching of Jouppi and Amir et al. as a whole, fail to disclose of the delay associated with volume of reproduction by each means for reproducing is controlled based on the positions of the head of the person. But, Amir did disclose of the gain being adjusted based on the distance from the person's mouth and orientation of the head ("page 1[0010], thus it is inherent that there must exist a delay associated with volume of reproduction by each means for reproducing is controlled based on the positions of the head of the person.

Re claim 24, the method according to claim 21, wherein the audio field is controlled based on the position of the person's head in three dimensions ("page 3 [0029] line 8-15; fig.2-4/video detectors for multidimensional positions").

3. Claim 25-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz ("7,092,001 B2") and Amir et al. ("2002/0090094 A1").

Re claim 25, Schulz disclose of a telepresence system comprising: a display booth having a plurality of cameras for obtaining images of a person within the display booth ("fig.1(104/with fig.2 (220); col.12 line 33-40/room as the booth"); a computer system for determining a position of the head of the person in at least two dimensions from the images of the person("fig.9; col.8 line 23-30"). But, Schulz fail to disclose of the plurality of speakers for reproducing an audio field at the display booth, wherein the audio field is controlled based on the position of the head of the person.

However, Amir disclose of a system wherein the plurality of speakers for reproducing an audio field at the display booth, wherein the audio field is controlled based on the position of the head of the person ("fig.1; fig.1 (18); fig.2") for the purpose of adjusting the gain of the transducer based on the head movement. Thus, taking the

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combined teaching of Schulz and Amir et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Schulz by incorporating the plurality of speakers for reproducing an audio field at the display booth, wherein the audio field is controlled based on the position of the head of the person for the purpose of adjusting the gain of the transducer based on the head movement.

Re claim 26, the telepresence system according to claim 25, wherein volume of reproduction by each speaker is controlled based on the position of the head of the person ("Amir, fig. 1(18)").

Re claim 27, the method according to the claim 25, However, the combined teaching of Schulz and Amir et al. as a whole, fail to disclose of the delay associated with volume of reproduction by each means for reproducing is controlled based on the positions of the head of the person. But, Amir did disclose of the gain being adjusted based on the distance from the person's mouth and orientation of the head ("page 1[0010], thus it is inherent that there must exist a delay associated with volume of reproduction by each means for reproducing is controlled based on the positions of the head of the person.

Re claim 28 the telepresence system according to claim 25, wherein the audio field is controlled based on the position of the

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person's head in three dimensions ("page 3[0029] line 8-15; fig.2-4/video detectors for multidimensional positions") .

Allowable Subject Matter

4. Claims 10-13, 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: O'Toole ("7,177,413 B2") disclose of the Head position and monitor and processing based on the movement and Plunket disclose of audio equalization based on sensor ("5,386,478") and Wilcock et al. disclose of the head tracking and adjusting output for stabilization ("US 2003/0093668") and Hennion et al. ("2003/0144768) disclose of the telepresence and reconstruction of surface.

contact


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-270-1187. The examiner can normally be reached on 7:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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